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ABSTRACT

The staff at Forrest School developed the following program goals: (1) activities which will encourage pupil participation in planning the learning activities; (2) opportunities for pupils to develop self-expression and verbal communication with adults and peers; (3) activities designed to insure some degree of success; (4) encouragement and immediate reinforcement following completion of assigned tasks; (5) highly individualized instructional activities designed to correct specific weaknesses in the area of reading; and (6) parental support in the form of parental involvement in programs designed to complement the school's effort. The school was determined eligible for Title I, Elementary Secondary Education Act services. These services included one lead teacher, one certified teacher, and two educational aides. In addition to the staff, funds were also used for purchasing reading materials. One of the two aides was also a participant in the Career Opportunities Program. Initially, the Comprehensive Instructional Program (CIP) was concerned with the reading achievement of pupils in elementary schools. The primary services provided to the schools consisted of materials and supplies, along with the CIP coordinator. The program was expanded to include reading for grades 1-3 and math for all grades in the elementary schools. (Author/JM)

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RESEARCH AND DEVELOPMENT REPORT

VOL. VII, No. 28 November, 1973

THE EFFECTS OF A HIGHLY CONCENTRATED READING AND MATHEMATICS PROGRAM ON THE ACHIEVEMENT OF INNER-SCHOOL PRIMARY PUPILS

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1972-73

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TABLE OF CONTENTS

	Page
RATIONALE	
Supporting Programs	
Title I ESEA	1
Comprehensive Instructional Program	2
NEEDS OF THE PUPILS	2
GOALS OF THE PROGRAM	3
OBJECTIVES	3
MANAGEMENT AND CONTROL	4
PROCESS	5
DIAGNOSIS	6
FINDINGS	7
COST ANALYSIS	13
CONCLUSIONS	15
RECOMMENDATIONS	16

LIST OF TABLES

NUMBER		Page
1	Iowa Tests of Basic Skills -- Performance of First Grade Pupils in Reading and in Mathematics According to the Subtests Reading Comprehension and Math Total	8
2	Iowa Tests of Basic Skills -- Profile of Pupil Performance in Reading Comprehension	9
3	Iowa Tests of Basic Skills -- Profile of Pupil Performance in Mathematics	10
4	Iowa Tests of Basic Skills -- Profile of Total Pupil Performance	10
5	Metropolitan Achievement Tests -- The Pretest and the Posttest Performance and Gain of Title I Pupils on the Subtest Reading	11
6	Self-Appraisal Inventory Primary Level	12
7	School Sentiment Index Intermediate Level	13
8	Cost Analysis	14

I. RATIONALE

According to pupil performance on the Metropolitan Achievement Tests (MAT), the gain in reading for grades two through seven was approximately nine months. This gain resulted between a pre/post period of six months and exceeded the expected gains by two months.

Pupil performance in mathematics, utlizing scores from the math subtest of the MAT, showed even higher gains for math than for reading. However, in spite of the significant gains made by the pupils during the 1971-72 school year, the standardized test scores showed that the Forrest pupils were below grade level in both math and reading.

Other data believed relevant to Forrest indicated that during the 1971-72 school year the mobility index decreased from the 1970-71 school year, as did the per cent of attendance. In addition, a survey of the family incomes of pupils who attended Forrest indicated that 46 per cent of the pupils were from low-income families.

In view of the above findings, especially the low reading levels of the pupils, the instructional program for 1972-73 was directed toward increasing pupil performance in reading and in mathematics.

Supporting Programs

A. Title I ESEA

Since 46 per cent of the pupils at Forrest were from families with low incomes, the school was determined eligible for Title I services. These services included one lead teacher, one certified teacher, and two educational aides. In addition to the staff, funds were also used for purchasing reading materials for use in Title I reading centers for Title I pupils.

One of the two aides paid by Title I was also a participant in the Career Opportunities Program (COP). This program, operative since June, 1970, was designed to train aides to become certified teachers. Since the aide in COP seemingly possessed high potential, the pupils with whom she worked were expected to show greater gains than those pupils not provided this service.

B. Comprehensive Instructional Program

Initially, Comprehensive Instructional Program (CIP) was concerned with the reading achievement of pupils in elementary schools. The primary services provided to the schools consisted of materials and supplies, along with the CIP coordinator. The coordinator, assigned to the area office, provided inservice training in the area of diagnostic testing and prescriptive teaching in reading during school year 1970-71. As of the 1971-72 school year, the program was expanded to include mathematics. During 1971-72, it included grades four through six. Finally, the program was further expanded for the 1972-73 school year to include reading for grades one through three and math for all grades in the elementary schools.

II. NEEDS OF THE PUPILS

The staff at Forrest School participated in an assessment program designed to identify the needs of the pupils. Pupil achievement records, including standardized test scores, teacher-made tests, and observations made by the instructional staff were utilized to identify strengths and weaknesses among the pupils. Accordingly, the following needs were identified as those toward which the instructional activities were directed:

A. More positive attitude toward school.

B. Increased attention span.

C. Encouragement and immediate reinforcement.

D. Skill in following directions.

E. Skill in developmental reading, word analysis, word recognition, and comprehension.

F. Improvement in their relationship with peers and adults.

G. Skill in group interaction and in social situations.

H. Sense of self-direction and skill in directing their own individual direction.

III. GOALS OF THE PROGRAM

The following program goals were developed by the staff in accordance with the pupils' needs.

A. Activities which will encourage pupil participation in planning the learning activities.

B. Opportunities for pupils to develop self-expression and verbal communication with adults and peers.

C. Activities designed to insure some degree of success.

D. Encouragement and immediate reinforcement following completion of assigned tasks.

E. Highly individualized instructional activities designed to correct specific weaknesses in the area of reading.

F. Parental support in the form of parental involvement in programs designed to complement the school's effort. Such involvement would be operative at home and at school.

IV. OBJECTIVES

The following performance objectives were used as criteria for evaluating program effectiveness:

A. Pupils enrolled in the first grade during the school year 1972-73 will perform at level 1.7 or above on the Iowa Tests of Basic Skills (ITBS) -- subtests reading and mathematics administered in April, 1973.

B. Pupils enrolled in grades two through five during the school year 1972-73 will perform at levels in the Iowa Tests of Basic Skills (ITBS) which will be determined as "within the effective range" as determined by the criteria used by the Atlanta Public Schools, pupil performance study.

C. The 51 Title I pupils will show a one-month gain in reading for each month in the Title I program. Accordingly, the pre/post scores on the Metropolitan Achievement Tests (MAT) administered during October, 1972, and April, 1973, will be used to show this gain.

D. Pupils who participate in the English-Reading activity in the Title I reading center will demonstrate more positive attitudes. Data from attitude scales administered during April, 1972, and April, 1973, will be used to determine changes in this area.

E. Pupils will show improvement in self-concept according to pupil performance on the Self-Appraisal Index (SAI) administered during April, 1972, and during April, 1973. The difference between the two groups of scores will be positive and statistically significant at the .05 level.

F. Pupils taught by Career Opportunities Program (COP) teams will make a gain of more than one grade level (10 months) annually.

G. Pupils taught by Career Opportunities Program (COP) teams will make a significantly greater annual gain in reading than similar pupils taught in self-contained classrooms.

H. The low-income schools with Career Opportunities Program teams will achieve, after one year of operation, significantly more open climate than will non-Career Opportunities Program (COP) schools.

I. The low-income schools with Career Opportunities Program (COP) teams will achieve significnatly greater gains in pupil self-concepts annually than the non-Career Opportunities Program (COP) schools.

V. MANAGEMENT AND CONTROL

The local school principal administratively coordinated the total school program at Forrest. His activities were directed by the Area III Superintendent and the Superintendent. His many activities included directing and planning meetings with regular funded classroom teachers and staffs of federally funded programs. The primary purposes of such meetings were to develop and provide an instructional program according to pupil needs and to have the instructional staff involved in continuous evaluation activities.

Contributions to the effort of the principal were made by area resource staff with expertise in reading and mathematics. This staff consisted of the Title I coordinator, the Comprehensive Instructional Program coordinator, and other resource staff paid by general funds.

The specific activities which occurred in the Title I reading center were coordinated by the Title I lead teacher under the direction of the principal. The lead teacher provided inservice training for the two Title I aides and the one Title I certified teacher. The inservice training was specifically related to the teaching of reading for Title I pupils.

Other activities of the lead teacher included assisitng the regular teachers of Title I pupils by prescribing relevant reading activities, selecting materials, and providing data relative to pupil progress.

Parental involvement was also coordinated by the lead teacher under the direction of the principal. These included parent participation in such activities as the Parent-Teacher Association (PTA), parent volunteers during the regular school day, and as members of the Title I local school and city-wide advisory committee.

VI. PROCESS

All pupils participated in activities provided by teachers paid by state and local funds. These included a reading activity of approximately one hour daily, wherein specific reading skills were taught. The remaining activities, including mathematics, also provided for the teaching of reading as it related to the individual subject and/or units in content areas.

The organizational structure at Forrest was such that all subjects were taught in self-contained classrooms heterogeneously and grouped within classes according to ability and/or achievement level. Many of the activities were provided to the pupils on an individual basis in an effort to meet their individual needs and interests.

The Comprehensive Instructional Program (CIP) diagnostic reading tests along with teacher-designed checklists were used to assess the strengths and weaknesses of the pupils. The data assisted the teachers in developing specific reading activities for pupils. Also, the CIP data along with scores from the Metropolitan Achievement Tests (MAT) administered in April, 1972, were used to select the appropriate level textbook and materials for pupils in each individual class.

The basal approach to the teaching of reading was used at Forrest. Grade one used the revised edition of the Scott-Foresman. Grades two through five used the old edition of this series. In addition to the home text, the workbook designed to accompany the reading, other supplementary material including word cards and phonics games were also used.

In addition to participating in the activities of the regular program, 51 pupils, identified as the lowest achievers, were provided compensatory activities in Title I reading centers. The pupils were scheduled such that the lead teacher, along with one certified teacher and two educational aides directed individual reading activities for 45 minutes daily. These activities in reading were designed to reinforce and extend the regular program activities for these pupils.

The materials used in the reading center included the Science Research Associates (SRA) reading kits, Lyons-Carnham Spelling and Phonics Games. In addition to these, the Title I staff developed games to aid pupils with specifically identified needs.

VII. DIAGNOSIS

The following procedures were utilized to obtain data necessary for assessing the effectiveness of the program:

A. Pupil reading performance in all grades was measured by the Iowa Tests of Basic Skills (ITBS) administered during April, 1973.

B. Changes in reading performance for the 51 Title I pupils were measured from scores on the Metropolitan Readiness Tests (MRT) and/or the Metropolitan Achievement Tests (MAT). These instruments were administered for pretest purposes during October, 1972, and for posttest tests during April, 1973.

C. Data relative to changes in self-concept resulted from the pretest/posttest scores of the Self-Appraisal Index (SAI). The pretest was administered during April, 1972, and the posttest was administered during April, 1973. Only the scores of the Title I pupils were used in this phase of the evaluative process.

D. Data relative to changes in attitude toward school resulted from the pretest/posttest scoresof the Title I pupils on the School Sentiment Index (SSI). This instrument was administered as the pretest during April, 1972, and again as posttest in April, 1973.

E. The Opinionnaire on Attitude Toward Education was administered to all teachers and aides at Forrest to assess attitudes of the instructional staff toward education. This instrument was administered during April, 1973.

Other data utilized in this report and believed to be relevant were the mobility index computed from the pupils' attendance records, percentage of free lunches computed from the pupils' lunch room reports, and teacher absenses as determined from teacher attendance records.

These data were used to determine the relationship between (1) pupil achievement and per cent of attendance, (2) pupil achievement and per cent of mobility, (3) pupil achievement and per cent of paid lunches, and (4) pupil achievement and teacher absences.

VIII. FINDINGS

Pupil mobility at Forrest increased by nine per cent over the previous school year. However, according to other data the per cent of attendance (91.0) among the pupils remained constant, as did the per cent of pupils from low-income families.

Data used to assess pupil achievement were from The Iowa Tests of Basic Skills and The Metropolitan Achievement Tests. According to the objective, first grade pupils would score first grade seven months on the Iowa Tests of Basic Skills in reading and math. Data relative to this objective are shown in Table 1.

TABLE 1

IOWA TESTS OF BASIC SKILLS
PERFORMANCE OF FIRST GRADE PUPILS
IN READING AND IN MATHEMATICS
ACCORDING TO THE SUBTESTS READING COMPREHENSION
AND MATH TOTAL

N = 39

Number of Pupils:	Reading	Math
Scored 1.7 or above	21	36
Scored below 1.7	18	3
Totals	39	39
Mean Grade Score	1.7	2.5

According to these data the pupils achieved the objectives for both areas. However, they performed highest in math (eight months higher than in reading). Also, according to individual score more pupils performed at 1.7 or above in math than in reading.

Data used to assess the performance of the pupils of grades 2-5 were from the Iowa Tests of Basic Skills administered in April, 1973. These included scores from the subtests reading comprehension and mathematics along with the composite scores denoting the total performance of the pupils. Since no pretest data were available, no gains could be computed. Instead, the spring, 1972 Metropolitan Achievement Tests (MAT) scores along with four other variables: per cent of paid lunches, per cent of attendance, per cent of mobility, and pupil/teacher ratio were used to predict the performance of the pupils on the Iowa Tests of Basic Skills.

Table 2 shows data relative to actual and predicted performance in reading comprehension.

TABLE 2

IOWA TESTS OF BASIC SKILLS
PROFILE OF PUPIL PERFORMANCE IN
READING COMPREHENSION

	Reading Test Data				
Grade	Actual Performance	Predicted Performance	National Norms	Summary Predicted	Quotients National Norms
2	1.9	2.3	2.7	82	69
3	2.2	2.7	3.8	80	58
4	3.5	3.4	4.7	101	74
5	3.7	4 0	5.7	91	65
			Average	88	66

These include the national norms for each grade level, quotients as to percentage of the predicted as achieved by the pupils, and the percentage of the national norms as achieved by each grade level. Accordingly, only the fourth grade pupils performed as predicted. Grades 2, 3, and 5 performed from 3 to 5 months below the predicted levels. In addition, according to national norms, the pupils were from eight months to two years below grade level.

Pupil performance in math was higher than in reading (see Table 3). Pupils of grades 2 and 5 exceeded the predicted level of performance. In addition, the second grade pupils performed above the national norms by one month. Also, for all other grades, the deficits between actual performance and national norms were less than those for reading. As should be noticed, the pupils of grades 3, 4, and 5 are from one year to one year-four months below national norms in math as compared with from eight months to two years below national norms in reading.

TABLE 3

IOWA TESTS OF BASIC SKILLS
PROFILE OF PUPIL PERFORMANCE IN MATHEMATICS

Mathematics Test Data

Grade	Actual Performance	Predicted Performance	National Norms	Summary Predicted	Quotients National Norms
2	2.7	2.4	2.6	112	104
3	2.3	2.9	3.7	79	62
4	3.5	3.6	4.7	95	75
5	4.5	4.3	5.6	104	79
			Average	97	80

Data denoting the total performance of pupils are shown in Table 4. According to these data, the total performance of the pupils was similar to their performances in math. Grades four and five performed as predicted; grades 2 and 3 did not perform as high as was predicted.

TABLE 4

IOWA TESTS OF BASIC SKILLS
PROFILE OF TOTAL PUPIL PERFORMANCE

Composite Test Data

Grade	Actual	Predicted	National Norms	Percentage Predicted	Quotients National Norms
2	2.3	2.4	2.6	94	87
3	2.6	2.9	3.7	89	69
4	3.6	3.6	4.7	99	76
5	4.2	4.2	5.7	98	73
			Average	95	76

The second grade pupils were one month below predicted scores while the third grade showed a deficit of three months. Relative to the third grade pupils' deficits between actual and predicted, these were consistent among the three subtests. In addition, the fourth and fifth graders, seemingly performed more consistent with the predicted levels according to data shown in Tables 2, 3, and 4. Perhaps, effort is needed to determine the effective activities and/or techniques used by teachers of these grades. Also, it seems that the Comprehensive Instructional Programs may have influenced the math performance of pupils of all grades. As should be noted the pupils consistently performed higher in math than in reading.

No effort was made to determine the impact of the COP aide on the achievement of the Title I pupils since she worked with the total group. In addition, no comparison was made to assess the affective changes of COP and none COP pupils of this group. However, data denoting the cognitive and affective status of this group are included. Table 5 shows the pretest, /posttest performance and the gain of the Title I pupils in reading.

TABLE 5

METROPOLITAN ACHIEVEMENT TESTS
THE PRETEST AND THE POSTTEST PERFORMANCE
AND GAIN OF TITLE I PUPILS ON THE SUBTEST READING

Grade	Pretest	Posttest	Gain in Months
3	1.6	3.0	14
4	2.0	2.7	7
5	2.5	2.8	3

As mentioned previously, fifty-one pupils participated in the Title I English-Reading Activity. This activity involved the Title I staff of teachers and aides who developed and directed compensatory reading activity to each of the pupils for approximately 45 minutes per day. The activity, according to objective, would assist these pupils in achieving a gain of one month in reading for each month in the activity.

Data used to evaluate the extent to which this objective was achieved consisted of the pretest and posttest scores of the 51 Title I pupils on the Metropolitan Achievement Tests subtest -- reading administered during October, 1972 and April, 1973. Since approximately six months of instruction were provided between the pre/posttest periods, pupils who showed gains of six months or better achieved the objective. Accordingly, the third and fourth graders achieved as predicted while the fifth graders gained approximately fifty per cent of the predicted six months gain. In addition, the third grade gained seven months more than the fourth grade pupils. This seemed to have indicated that perhaps the activities were geared to lower grade pupils, in that the lower grade pupils benefitted more from the activities than the higher grade pupils. Another possible explanation for the difference in gain is that perhaps the effects of the activities on the achievement of the upper grade pupils were not measurable on grade level standardized tests as administered to these pupils. In addition, perhaps more effort is needed to determine appropriate activities for upper grade underachievers.

Data from the Self-Appraisal Inventory (SAI) were administered to 28 Title I pupils. These data were used to assess their percentage of positive responses of pupils as related to four categories, peer group, family, school, and attitude in general. The results (see Table 6) showed that the pupils responded positive to more than 50 per cent of items in all four categories. They scored highest among the items relative to general or those denoting a comprehensive estimate of how the self is esteemed. The lowest per cent of positive responses were those items related to the family and reflecting the self-esteem associated with family interactions. In addition, the peer group rated second followed by the school. The lower percentage of positive responses relating to the category family seemingly supports the assumption that the limited family interaction occurs in general among low-income families. Also, peer groups' influence is perhaps less evident at the primary level. In summary, the implication here is that primary pupils' self-esteem as they perceive it, results more from their experiences in school and other situations rather than from the family or the peer group.

TABLE 6

SELF-APPRAISAL INVENTORY
PRIMARY LEVEL -- N. B. FORREST

Categories	Total Possible	Total	Percentage
Peer	364	238	65.4
Family	168	93	55.4
School	336	228	67.9
General	252	191	75.8
Total	1120	750	67.0

N = 28

Data shown in Table 7 were used to assess attitudes of seventeen Title I fourth and fifth grade pupils toward school. The instrument School Sentiment Index was administered during April, 1973 and contained items relative to the following five categories: (1) The "peer" group with regard to the structure and climate of relationships within the peer, rather than specific individuals within in that group; (2) "learning" with reference to the concept of learning independent of school teachers or subjects areas; (3) "general" consisting of general feeling toward school without regards to a particular school; (4) "school subjects" as they related to various commonly-taught subjects; (5) "teachers" subjective rather than objective assessment of the teacher's behavior regarding mode of instruction, authority and control, and the interpersonal relationship of teacher to pupil. The results show that the pupils responded positive to over fifty per cent of the items under all five categories. However, according to the percentage of positive responses under each, the pupils were most positive toward the school climate and least positive toward the teacher. Among the remaining three categories the pupils were more positive toward school in general than toward the peer group, and more positive toward the peer group than toward school subjects. These findings may have some implications relative to the pupils perceptions of their teachers and their achievement in reading. Perhaps, more effort is needed to provide activities which may develop positive attitudes especially toward learning to read.

TABLE 7

SCHOOL SENTIMENT INDEX
INTERMEDIATE LEVEL -- N. B. FORREST

Categories	Total Possible	Positive Responses	Per-centage
Peer	170	102	60.0
School Climate	102	72	70.6
School Subject	272	157	57.7
Teacher	578	329	56.9
General	153	101	66.0
Totals	1275	761	59.7

N = 17

IX. COST ANALYSIS

Shown in Table 8 is the per pupil outlay of funds derived from revenue sources which make up the operating budget (general funds) and of funds derived from special or compensatory projects. The purpose of the analysis is to show the relationship between the per pupil cost of the instructional program and pupil progress relative to the predicted quotient. Accordingly, the analysis shows the amount of funds used to gain one unit of predicted achievement for each pupil in average daily attendance.

According to the data, the average per pupil expenditure at Forrest school from general funds was $932.45. Its per pupil cost from compensatory was $116.90. The predicted quotient was 95. In addition, the per pupil cost for one unit of predicted achievement from general funds was $977 and $1.31 from Compensatory funds.

The per pupil cost among grades 2-5 ranged from approximately $1,039 to $1,064. No relationship could be noted between the predicted achievement quotients and cost. The fifth grade pupils with 98 per cent showed a per pupil cost which was lower than the second grade with a predicted index quotient of 94. These data seemingly indicated that the per pupil expenditure did not necessarily determine performance.

TABLE 8

COST ANALYSIS
1972-73
TOTAL AVERAGE DAILY ATTENDANCE (Kdg.-5) = 225

	Grades						
	Kdg.	First	Second	Third	Fourth	Fifth	Average
Average Daily Attendance	17	44	42	31	47	44	38
Per Pupil Cost							
A. General Funds							
1. Regular							
a. Salary	$ 854.83	$ 854.83	$ 854.83	$ 854.83	$ 854.83	$ 854.83	$ 854.83
b. Nonsalary	77.62	77.62	77.62	77.62	77.62	77.62	77.62
c. Total	$ 932.45	$ 932.45	$ 932.45	$ 932.45	$ 932.45	$ 932.45	$ 932.45
B. Compensatory Funds							
1. Home-School-Community							
a. Salary	$ -0-	$ 25.47	$ 25.47	$ 25.47	$ 25.47	$ -0-	$ 18.56
b. Nonsalary	-0-	-0-	-0-	-0-	-0-	-0-	-0-
c. Total	$ -0-	$ 25.47	$ 25.47	$ 25.47	$ 25.47	$ -0-	$ 18.56
2. Title I							
a. Salary	$ -0-	$ 104.70	$ 104.70	$ 104.70	$ 104.70	$ 104.70	$ 96.79
b. Nonsalary	-0-	1.68	1.68	1.68	1.68	1.68	1.55
c. Total	$ -0-	$ 106.38	$ 106.38	$ 106.38	$ 106.38	$ 106.38	$ 98.34
3. Total Compensatory Funds							
a. Salary	$ -0-	$ 130.17	$ 130.17	$ 130.17	$ 130.17	$ 104.70	$ 115.35
b. Nonsalary	-0-	1.68	1.68	1.68	1.68	1.68	1.55
c. Total	$ -0-	$ 131.85	$ 131.85	$ 131.85	$ 131.85	$ 106.38	$ 116.90
C. Total Per Pupil Cost							
1. Salary	$ 854.83	$ 985.00	$ 985.00	$ 985.00	$ 985.00	$ 959.53	$ 970.18
2. Nonsalary	77.62	79.30	79.30	79.30	79.30	79.30	79.17
3. Total	$ 932.45	$ 1064.30	$ 1064.30	$ 1064.30	$ 1064.30	$ 1038.83	$ 1049.35
Projected Achievement Index	--	--	94	89	99	98	95
Cost Per Unit of Predicted Achievement Index							
A. General Funds	$ -0-	$ -0-	$ 9.92	$ 10.48	$ 9.42	$ 9.51	$ 9.77
B. Compensatory Funds	-0-	-0-	1.40	1.48	1.43	1.09	1.31
C. Total	$ -0-	$ -0-	$ 11.32	$ 11.96	$ 10.75	$ 10.60	$ 11.08

The cost per unit of predicted gain varied directly with the predicted achievement in that grades showing the higher quotients cost less per unit of predicted gain. As should be noted, the fourth graders had the highest projected index quotient and the lowest cost per unit of predicted. In summary the data seem to have indicated that other variables in addition to cost, influence pupil achievement. Perhaps effort is needed in developing a system which may more effectively assess pupil needs and at the same time determine costs needed to provide the learning experiences directly related alleviating such needs. This would include projecting cost on an individual school basis.

X. CONCLUSIONS

A. According to data from the Iowa Tests of Basic Skills the first grade pupils performed at grade level or above in math and in reading. However, they performed higher in math than in reading.

B. The comparison of the predicted performance of pupils of grades 2-5 with the actual performance for these grades according to data from the Iowa Tests of Basic Skills evidence the following:

1. The fourth grade pupils performed higher than was predicted in reading.

2. Pupils of grades 2, 3, and 5 did not perform as high as was predicted in reading. Among these, grade 3 performed lowest.

3. Pupils of grades 2 and 5 exceeded expectancy in math. While the third and fourth grade pupils did not perform as predicted.

4. According to composite data, only pupils of grades 4 and 5 performed as expected.

C. The comparison between national norm and actual performance of the pupils on the Iowa Tests of Basic Skills indicated that:

1. Only the second grade performed at the national norm in math.

2. The performance of pupils of grades 2-5 was approximately two-thirds (66 per cent) of the national norm in reading.

3. The performance of pupils of grades 2-5 was four-fifths (80 per cent) of the national norm in math.

D. The performance of first grade and second grade pupils seemed to have indicated that perhaps CIP had some impact on the achievement in reading and in math.

E. Title I compensatory activities appeared to have had the greater effect in grades 3 and 4. The program participants of these grades gained more than the predicted six months in reading.

F. The pupils at Forrest reflected positive self-esteem in that they responded positive to over 50 per cent of the items under each category. However, a lower percentage of positive category responses were noted under the "family" on the Self-Appraisal Inventory administered to Primary Title I pupils.

G. Data from the School Sentiment Index administered to Title I fourth and fifth grade pupils reflected positive attitudes relative to five categores. However, they were less positive in their response concerning the categories "teacher" and "school subjects."

H. According to data, no direct relationship could be established between performance and cost. More specifically, grade wherein per pupil cost was highest did not, in general, gain more.

XI. RECOMMENDATIONS

The findings of this study appear to warrant the following recommendations:

A. Careful consideration be given to developing ways to improve performance of pupils who in the past have made little progress. This would include assessing the needs of each pupil.

B. The school staff identify and observe the techniques used in classes wherein pupils achieve highest in order that these techniques may be utilized in less effective situations.

C. Careful consideration be given to the high performance by the first grade pupil in reading and math to insure continuation of the present rate of growth.